South Dakota Department of Health

PUBLIC HEALTH BULLETIN

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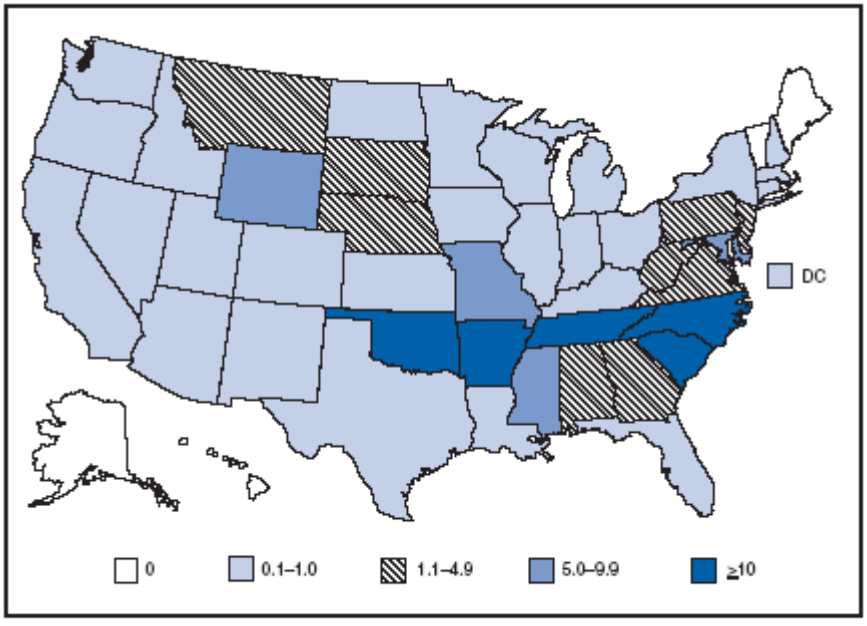
Rocky Mountain Spotted Fever in South Dakota

By Lon Kightlinger, MSPH, PhD, State Epidemiologist, Department of Health

Rocky Mountain spotted fever (RMSF) is a tick-borne rickettsial disease caused by *Rickettsia ricketsii*. Nationally, cases of RMSF have increased nearly four-fold since 2000. Although RMSF cases have been reported from across the United States, more than half of the cases are from southeastern states of North Carolina, South Carolina, Tennessee, Arkansas, Oklahoma, Mississippi and Alabama.

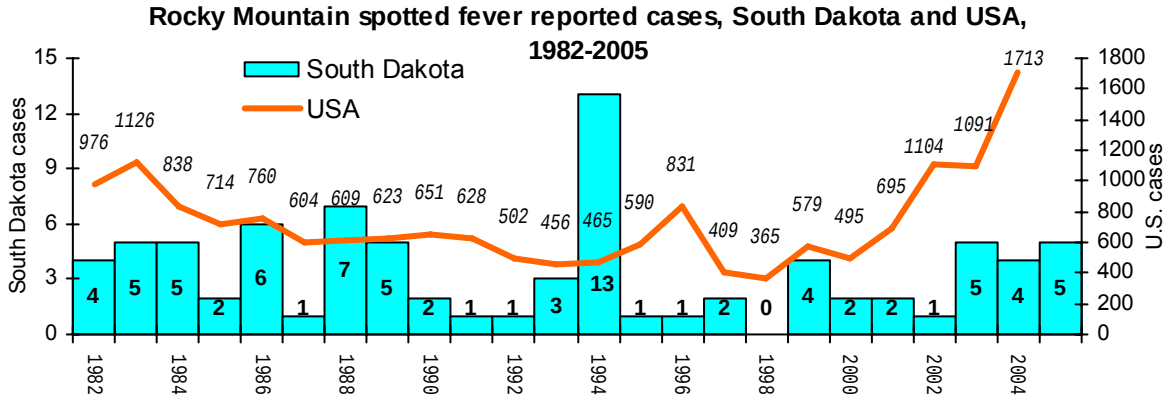
Average reported annual incidence* of Rocky Mountain spotted fever, by state – United States, 1997 – 2002. (Source: CDC)



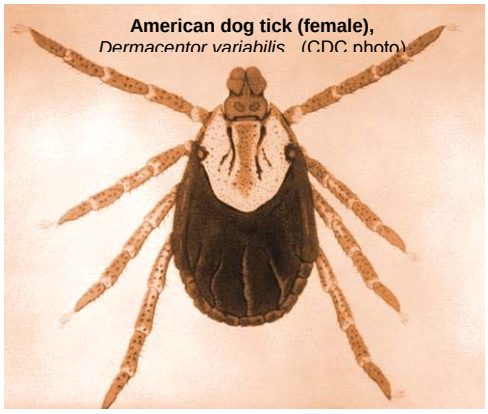
* Per 1,000,000 persons per year.

Cases of RMSF are reported in South Dakota each year. Since 1993 there have been 43 cases of RMSF reported from 23 counties across the state. The incidence of RMSF cases is three times higher West River than East River. Pennington County has had the most RMSF cases, 9, since 1993.

Primary vectors: American dog tick (*Dermacentor variabilis*) is found throughout South Dakota, and the Rocky Mountain wood tick (*Dermacentor andersoni*) is found in higher elevations of western South Dakota. The *Rickettsia* is maintained in wild animals and tick populations.



Prevention: Avoiding tick bites and promptly removing attached ticks. No licensed vaccine available.


American dog tick (female), *Dermacentor variabilis*. (CDC photo)

Season: Spring – summer.

Incubation period: 2-14 days

Clinical features: Fever, headache, malaise and sometimes gastrointestinal symptoms. Rash, usually starts peripherally and moves centrally; might involve soles and palms; progresses from maculopapular to petechial. Maculopapular rash approximately 2-4 days after fever onset in 50% - 80% of adults (>90% in children).

Case fatality rate: 5% - 10%.

Common laboratory abnormalities: Thrombocytopenia, mild hyponatremia, mildly elevated hepatic transaminase levels.

Confirmatory laboratory diagnosis:

- Serological evidence of a significant change in serum antibody titer reactive with *Rickettsia rickettsii* antigens between paired serum specimens, as measured by a standardized assay.
- Demonstration of *R. rickettsii* antigen in a clinical specimen by immunohistochemical methods.
- Detection of *R. rickettsii* DNA in a clinical specimen by the polymerase chain reaction (PCR assay).
- Isolation of *R. rickettsii* from a clinical specimen in cell culture.

For confirmed cases, a significant change in titer must be determined by the testing laboratory; examples of commonly used measures of significant change include, but are not limited to, a 4-fold or greater change in antibody titer as determined by indirect immunoflourescent antibody (IFA) assay or an equivalent change in optical density measured by enzyme-linked immunosorbent assay (EIA or ELISA). Patients usually do not have diagnostic serum antibody levels during the first week of illness; therefore, an inability to detect antibodies (IgG or IgM) in

acute-phase serum does not exclude RMSF. Health-care providers should not delay treatment while waiting for a diagnosis; rather, they should empirically provide treatment if they suspect RMSF.

Resources

CDC. Diagnosis and management of tickborne rickettsial diseases: Rocky Mountain spotted fever, ehrlichioses, and anaplasmosis — United States: a practical guide for physicians and other health-care and public health professionals. MMWR 2006; 55/RR-4
www.cdc.gov/mmwr/preview/mmwrhtml/rr5504a1.htm

SD State University. Ticks in South Dakota: http://plantsci.sdstate.edu/ent/entpubs/ticks_sd.htm

CDC RMSF website: www.cdc.gov/ncidod/dvrd/rmsf/index.htm

South Dakota Cancer Registry achieves gold standard award

By Mynna Boodhoo Kightlinger, MSPH, South Dakota Cancer Registry Coordinator

The South Dakota Department of Health's cancer registry, the South Dakota Cancer Registry (SDCR), has received the Gold Standard Certification award from the North American Association of Central Cancer Registries (NAACCR) for cancer incidence data collection in 2003.

The NAACCR has established gold- and silver-standard criteria to recognize population-based cancer registries that achieve excellence in the following areas: completeness of information, data accuracy and timeliness of data submissions.

This year 73 population-based cancer registries submitted their 2003 incidence data for evaluation and confidential feedback as part of the NAACCR Registry Certification process. There are 76 NAACCR member registries in North America that are eligible to submit data files for the registry certification program.

There are two primary reasons for evaluating central cancer registry incidence data.

1. To recognize population based cancer registries that have achieved excellence in the areas of completeness of case ascertainment, quality of the data, and timeliness in producing cancer incidence data.
2. To provide confidential feedback which individual registries can use to identify current and future resources and training needs.

This is the first year that the SDCR has been certified since its establishment as a statewide, population-based registry in January, 2001. The 2000-2003 data is published in *Cancer in North America* (CINA) 1999-2003, which can be accessed for incidence 2000-2003 in Volume 1 and Mortality 1999-2003 in Volume 2.
www.naaccr.org/index.asp?Col_SectionKey=11&Col_ContentID=50

The SDCR is an active surveillance system that is the foundation for cancer control and prevention activities. It provides information on the cancer burden in South Dakota to programs that target cancer control and prevention as well as provides data for research related to cancer-control activities in the state. Most of all, it functions to evaluate any potential cancer clustering and to respond to citizen concerns about cancer in the areas where they live.

The 2000-2003 data includes cancer cases submitted to the central registry by South Dakota's seven hospitals that are approved by the Commission on Cancer, all pathology laboratories in the state and the Veterans Affairs hospitals**.** In addition, the SDCR has been collecting cases from other South Dakota health care facilities and providers, and from data sharing agreements with other states on a voluntary basis. The central registry edits, consolidates and resolves duplicates; links the incidence database with vital statistics to pick up cancers that are diagnosed at death; and links the database with the Indian Health Services system in Albuquerque to pick up and correct any racial misclassification of American Indians.

At the same time that the SDCR has achieved certification, it has also achieved the high quality standards for inclusion in the 2003 United States Cancer Statistics (USCS). That report will be published in November 2006 and will cover over 93 % of the U.S. population.

On July 1, 2006, cancer reporting becomes mandatory in South Dakota for any hospital, physician, physician assistant, nurse practitioner, nurse midwife, pathology laboratory, or free-standing radiology center that detects, diagnoses, or treats a cancer case in South Dakota.

South Dakota Cancer Registry

NAACCR Certification on Quality, Completeness & Timeliness of 2003 Data: Summary of Certification Measures

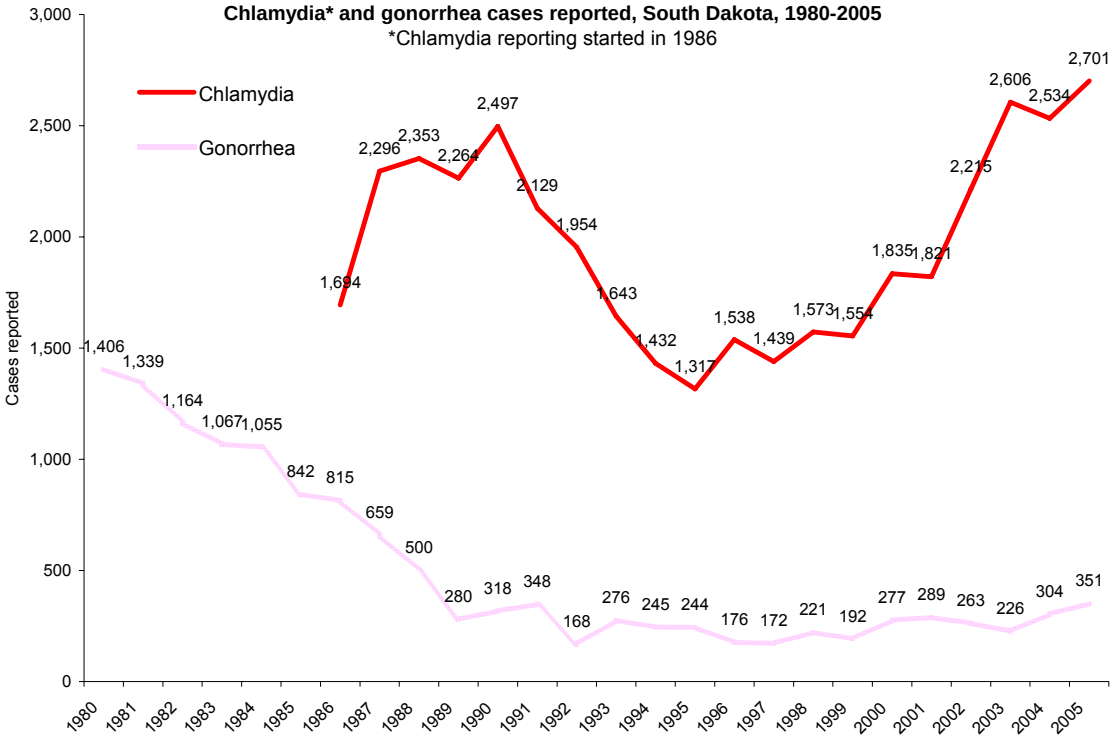
Registry Element	Gold Standard	Silver Standard	Actual Measure	Measurement Error Allowed	Standard Achieved
1. Completeness of case ascertainment	95%	90%	96%	1.0%	Gold
2.Completeness of information recorded					
Missing / unknown "age at diagnosis"	≤2%	≤3%	0.0%	-0.4%	Gold
Missing / unknown "sex"	≤2%	≤3%	0.0%	-0.4%	Gold
Missing / unknown "race"	≤3%	≤5%	0.6%	-0.4%	Gold
Missing / unknown "State & county"	≤2%	≤3%	1.6%	-0.4%	Gold
3. Death certificate only (DCO)cases	≤3%	≤5%	2.9%	-0.4%	Gold
4. Duplicate primary cases	≤ 1 per 1,000	≤ 2 per 1,000	0.5 per 1,000	-0.40%	Gold
5. Passing EDITS	100%	97%	100.00%	Not applicable	Gold
6.Timeliness	Data submitted within 23 months of close of accession year				Gold
				Certification Status	**GOLD**

The South Dakota Department of Health acknowledges the cooperation and efforts that hospitals, providers and pathology laboratories statewide have made in order for the state to achieve national standards and certification. In particular, the SDCR acknowledges the crucial role played by the 12 hospital certified tumor registrars (CTR) in abstracting high quality cancer data for submission to the central registry and the role of the central registry CTR's in quality assurance activities to achieve national standards.

Chlamydia and gonorrhea in South Dakota

Reported by Lon Kightlinger, MSPH, PhD, State Epidemiologist, Department of Health
Dave Morgan, STD Program Coordinator, Department of Health
Bonnie Jameson, Disease Prevention Administrator, Department of Health

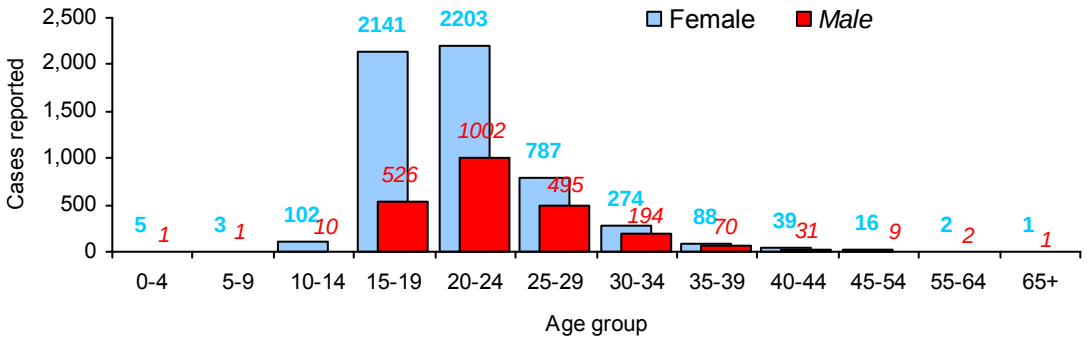
Chlamydia and gonorrhea are the most commonly reported diseases in South Dakota. In 2005, 2,701 cases of chlamydia were reported, the highest since reporting started, and 351 cases of gonorrhea cases were reported, the most since 1988. In 2004 South Dakota had the seventeenth highest chlamydia rate and the forty-first highest gonorrhea rate in the United States.



Chlamydia is a bacterial disease caused by *Chlamydia trachomatis*. Although symptoms are often mild or absent, chlamydia infection can cause serious complications such as ectopic pregnancy or infertility in women. In men chlamydia infection may cause epididymitis and urethral discharge. Chlamydia infection puts people at higher risk of contracting and transmitting HIV.

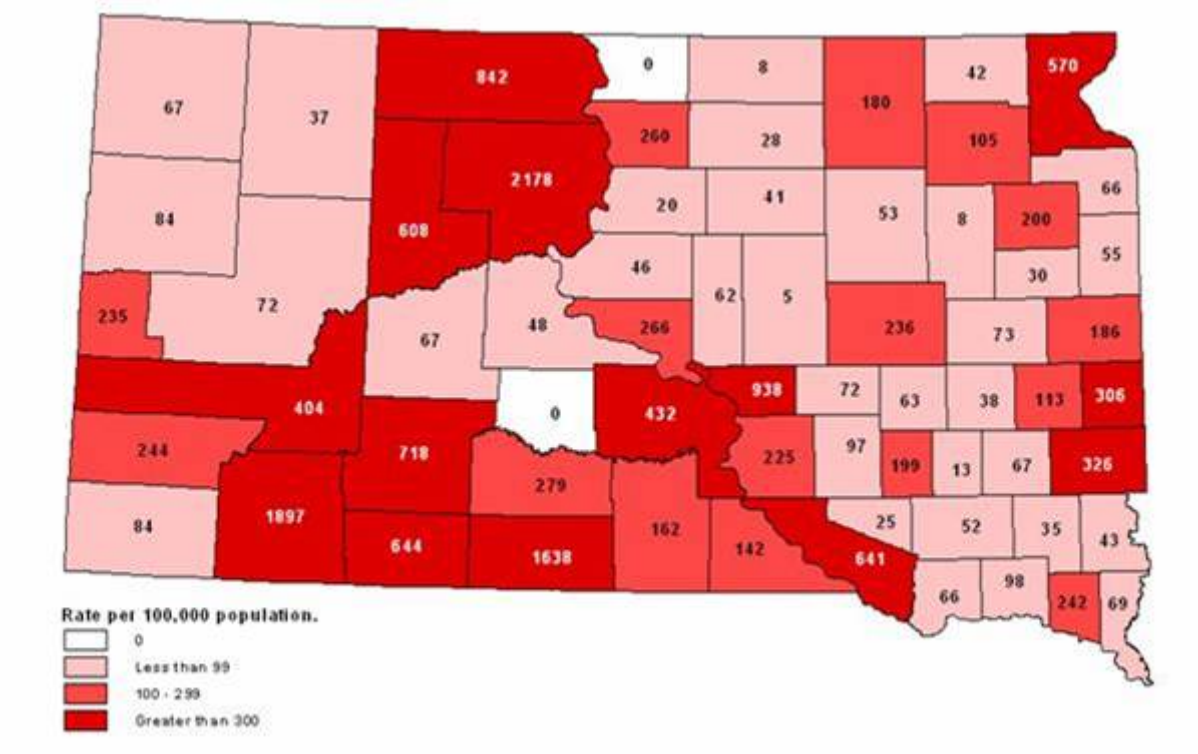
Since 1995 the number of chlamydia cases reported in South Dakota has doubled. Although this increase is partially explained by better clinical screening programs and more sensitive laboratory technologies, the upward trend is real and concerning. Chlamydia cases over the past 6 years, since 2000, were 70% female patients and 30% male; 48% of cases were white race, 47% American Indian and 5% were from other race groups. Females in the 15 – 24 year age group were at highest risk.

Chlamydia cases reported by gender and age, South Dakota 2000-2005.



In 2005 South Dakota reported 2,701 chlamydia cases, which is a rate of 350 cases per 100,000 population. During the 6 years since 2000 all but two South Dakota counties have reported chlamydia cases. Ninety percent of cases occurred in 21 counties. The map below shows that 14 counties had average annual rates of greater than 300 chlamydia cases per 100,000 population.

Chlamydia rates by county, South Dakota, 2000 – 2005 (average annual cases per 100,000 population)

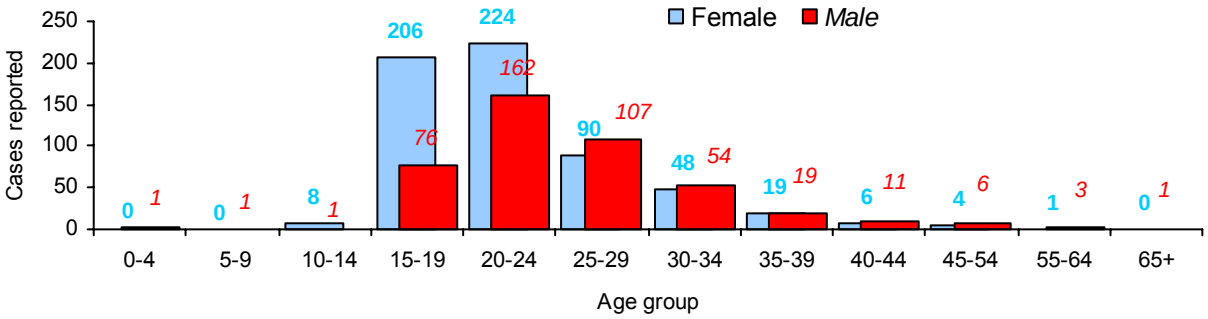


Gonorrhea is a bacterial disease caused by *Neisseria gonorrhoeae* infections of the female cervix, uterus and fallopian tubes, and male and female urethra. The bacterium can also infect the mouth, throat, eyes and anus, and may spread to the blood or joints.

Classic gonorrhea symptoms in women include a burning during urination and increased vaginal discharge. Although gonorrhea infections in women are sometimes asymptomatic or mild, severe and permanent complications may result. Untreated infections can lead to chronic pelvic pain, internal abscesses, damaged fallopian tubes, infertility or ectopic pregnancy. In men

gonorrhea is sometimes asymptomatic, but often causes burning while urinating, or a whitish-green urethral discharge. In men epididymitis may cause infertility. Symptoms appear 2-5 days after infection, but can take as long as 30 days to develop. Gonorrhea infection increases the risk of contracting and transmitting HIV.

Gonorrhea cases reported by gender and age, South Dakota 2000-2005.



Over the past 25 years the number of gonorrhea cases in South Dakota has decreased dramatically from over 1,000 cases per year in the early 1980's to less than 200 cases in the late 1990's. Since 2000, however, gonorrhea has been increasing. Over the past 6 years 58% of reported cases were female and 42% male; 58% of cases were American Indian, 29% white, and 13% were from other race groups. Females 15-24 years old were at highest risk.

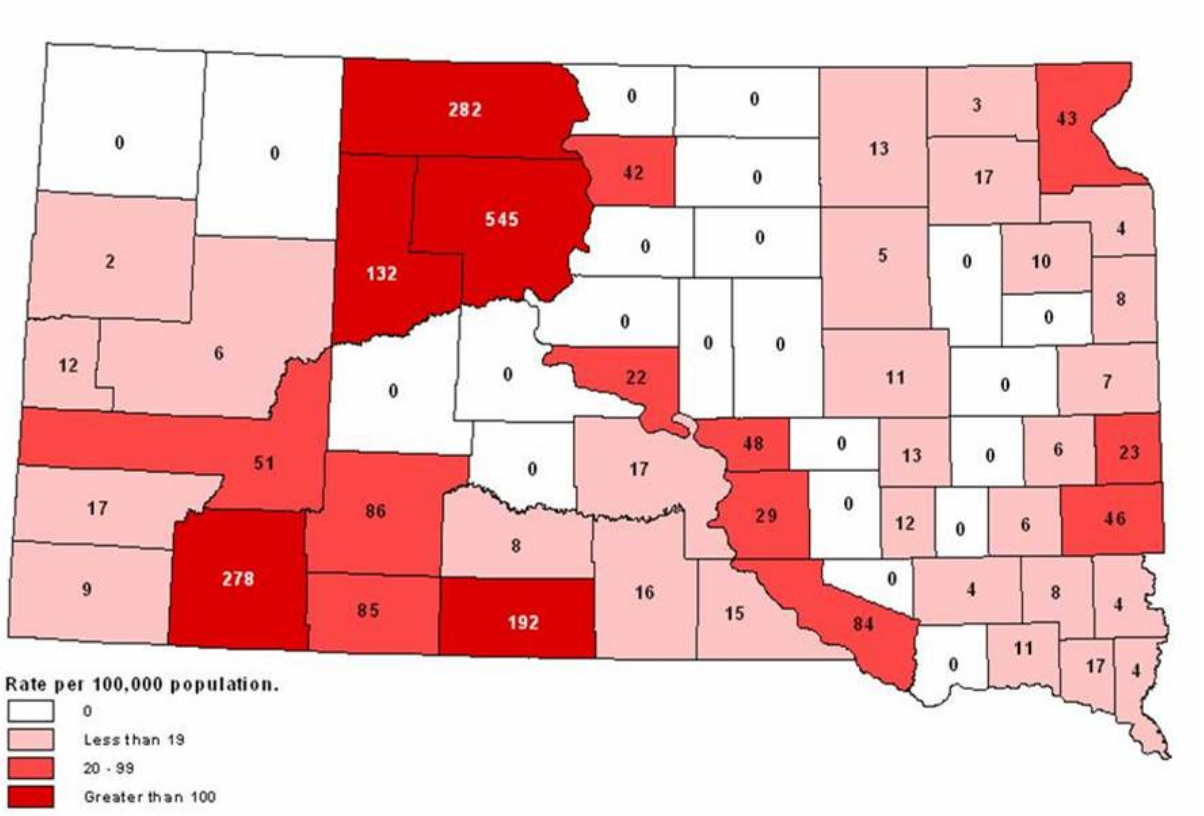
In 2005 South Dakota reported 351 cases of gonorrhea, which is a rate of 46 cases per 100,000 population. During the 6 years since 2000, two-thirds of South Dakota counties have reported cases of gonorrhea with 90% of cases coming from 15 counties. The map below shows that 5 counties had average annual rates of greater than 100 cases per 100,000 population.

Prevention. The best way to avoid chlamydia and gonorrhea is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is uninfected. Latex male condoms, when used consistently and correctly, can reduce the risk of transmission.

Chlamydia screening is recommended annually for all sexually active women 25 years of age and younger. An annual screening test also is recommended for older women with risk factors for chlamydia (a new sex partner or multiple sex partners). All pregnant women should be screened for chlamydia.

Symptoms such as pain during urination, discharge, or unusual sore or rash should be a signal to stop having sex and to consult a health care provider immediately. If a person has been treated for chlamydia or gonorrhea, all recent sex partners should be notified so they can seek treatment. This reduces the risk of sex partners developing serious complications and reduces the patient's risk of re-infection. The patient and all their sex partners must avoid sex until their treatment has been completed.

Gonorrhea rates by county, South Dakota, 2000 – 2005 (average annual cases per 100,000 population)



Resources:

- South Dakota Department of Health www.state.sd.us/doh/STD/
- Centers for Disease Control and Prevention: www.cdc.gov/std
- Treatment guidelines: www.cdc.gov/std/treatment/
- For testing and counseling for sexually transmitted diseases and HIV/AIDS, contact one of the following Department of Health sites or call 1-800-592-1861
  - **Aberdeen** (605) 626-2373 or toll free 1-866-805-1007
  - **Dupree** 605-365-5164 or toll free 1-866-778-5157
  - **Pierre** (605) 773-5348 or toll free 1-866-229-4927
  - **Rapid City** (605) 394-2289 or toll free 1-866-474-8221
  - **Sioux Falls** (605) 367-5363 or toll free 1-866-315-9214
  - **Watertown** (605) 882-5096 or toll free 1-866-817-4090

Adult immunization schedule

The current outbreak of mumps is a good reminder of the importance of making sure immunizations are kept up to date for children and adults alike.

The Department of Health encourages all adults to check the schedule of recommended immunizations from the Advisory Committee on Immunization Practice to make sure they are up to date. The schedule can be found on the web at http://www.cdc.gov/nip/.

For more information about immunizations, see the Department of Health's web site at http://www.state.sd.us/doh/Immunize/ or call the Immunization Program at 605-773-5323.

South Dakota Department of Health - Infectious Disease Surveillance

Selected Morbidity Report, 1 January – 30 April 2006 (provisional)

	Disease	2005 year-to-date	5-year median	Percent change
Vaccine-Preventable Diseases	Diphtheria	0	0	na
	Tetanus	0	0	na
	Pertussis	5	4	+25%
	Poliomyelitis	0	0	na
	Measles	0	0	na
	Mumps (to 6-2-06, confirmed/probable)	137	0	na
	Rubella	0	0	na
	Haemophilus influenza type b	0	0	na
Sexually Transmitted Infections and Blood-borne Diseases	HIV infection	12	8	+50%
	Hepatitis B	0	0	na
	Chlamydia	880	816	+8%
	Gonorrhea	112	84	+33%
	Genital Herpes	130	115	+13%
	Syphilis, primary & secondary	0	0	na
Tuberculosis	Tuberculosis	4	6	-33%
Invasive Bacterial Diseases	*Neisseria meningitides*	2	1	+100%
	Invasive Group A *Streptococcus*	4	8	-50%
Enteric Diseases	*E. coli* O157:H7	1	2	-50%
	Campylobacteriosis	35	36	-3%
	Salmonellosis	26	26	+0%
	Shigellosis	19	8	+138%
	Giardiasis	20	26	-23%
	Cryptosporidiosis	10	9	+11%
	Hepatitis A	5	1	+400%
Vector-borne Diseases	Animal Rabies	17	31	-45%
	Tularemia	0	0	na
	Rocky Mountain Spotted Fever	0	0	na
	Malaria (imported)	1	0	na
	Hantavirus Pulmonary Syndrome	0	0	na
	Lyme disease	0	0	na
	West Nile Virus disease	0	0	na
Other Diseases	*Streptococcus pneumoniae*, drug-resistant	0	1	-100%
	Legionellosis	1	0	na
	Additionally, the following diseases were reported: Chicken pox (28); Group B *Strep*, Invasive (4); Hepatitis C, chronic (10); Listeria (2); MRSA, Invasive (12).			

Communicable diseases are obligatorily reportable by physicians, hospitals, laboratories, and institutions.
The **Reportable Diseases List** is found at www.state.sd.us/doh/Disease/report.htm or upon request.
Diseases are reportable by telephone, mail, fax, website or courier.
Telephones: 24 hour answering device 1-800-592-1804; for a live person at any time call 1-800-592-1861; after hours emergency 605-280-4810. **Fax** 605-773-5509.
Mail in a sealed envelope addressed to the DOH, Office of Disease Prevention, 615 E. 4th Street, Pierre, SD 57501, marked "Confidential Medical Report". **Secure website:** www.state.sd.us/doh/diseasereport.htm.

2,500 copies of this Bulletin were printed by the Department of Health at a cost of $0.51 per copy.